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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,359

04/12/2006

Bruno Drochon

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8164

27452

7590

02/13/2008

SCHLUMBERGER TECHNOLOGY CORPORATION

David Cate

IP DEPT., WELL STIMULATION

110 SCHLUMBERGER DRIVE, MD1

SUGAR LAND, TX 77478

EXAMINER

MARCANTONI, PAUL D

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

02/13/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/595,359	Applicant(s) DROCHON ET AL.	
	Examiner Paul Marcantoni	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-26 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1793

102/103:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-26 are rejected under 35 U.S.C. 102(a,b, and e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Drochon et al. '991, Barlet Guedard et al. '515 B1, Maroy (US '996 or EP 062147-Y reference on Int'l Srch Rprt), Le-Roy Delage et al. (US '592 B1 or Y reference WO 00/37387 A from Int'l Srch Rprt), Dargaud et al. '288 B1 or '001 B2, GB 2385325 (Simon James), Brannon et al. '305 B1, Chatterji '492 B2, Reddy '206 A1, or Birchall et al. '748.

All of the references above teach adding a flexible or elastic material (e.g including plastic materials) to cement compositions. All references from Schlumberger teach that using a trimodal particle size distribution provides maximum PVF or particle volume fraction packing and improved cement properties. The last cited non-Schlumberger prior art do not teach trimodal particle packing. However, it is the examiner's position that this particle size arrangement would have been an obvious design choice at the time of applicants' invention because it is known to improve overall cement properties including well cements.

Drochon et al. '991 teach trimodal packing of particles and use of plastic materials or polypropylene beads which are flexible particles (see col.3, lines 17-32 and col.3, lines 63-65) in well cement.

Barlet-Gouedard et al. '515 B1 teach using well cements and multimodal particle packing to obtain maximum PVF and teach styrene butadiene latex particles (flexible) thus anticipating applicants claims (see claim 1).

Maroy et al. (US '996 or EP '247) teach well cements and multimodal (or trimodal) particle packing to achieve maximum PVF and also use crushed plastic wastes which are flexible particles (see col.5, lines 20-25 and col.8, lines 17-18).

Le Roy-Delage et al. '592 or WO '387 teach a well cement composition comprising flexible material or rubber such as polyethylene or SBR (col.3, lines 40-45). While these references may not teach trimodal packing and may not anticipate, this is conventional and commonly known in the art as a particle packing scheme which will

provide improved cement properties and thus would have been obvious design choice for one of ordinary skill in the art.

Dargaud '288 B1 or '001 B2 both teach adding flexible material to cement compositions like Le-Roy Delage. While these references may not teach trimodal packing and may not anticipate, this is conventional and commonly known in the art as a particle packing scheme which will provide improved cement properties and thus would have been obvious design choice for one of ordinary skill in the art.

James (GB '325) teach trimodal particle packing (p.5 ex 4). James teach using a flexible phenol formaldehyde resin as his flexible particle in well cement. This specific resin particle is functionally equivalent to other known flexible materials such as rubber and polypropylene (p.1, last paragraph) and the use of any one of any of these three flexible materials in James would have been an obvious design choice for one of ordinary skill in the art.

Brannon teaches a cement composition which can include a microfine cements (col.8, line 49), teaches adding elastic particles which are flexible materials, and also teach additives such as microspheres and hematite (col.24, lines 20-40) which are the same additives of the applicants' instant invention. Brannon does not appear to teach a trimodal particle packing arrangement. However, this is common and conventional in the art as an obvious design choice for one of ordinary skill in the art because it obtains improved cement properties including for well cement/subterranean applications.

Chatterji et al. '492 B2 teaches a particle packing using fine, medium and coarse particles and thus a trimodal arrangement. He also teaches inelastic polyethylene though this material can still be construed as flexible. It is the same polyethylene as applicants claim for their instant invention which they claim is flexible. Even assuming it is alleged different, applicants own polyethylene "over time" will become brittle as well so these appear no different as the plastic particles added to well cements.

Reddy et al. '206 A1 teach adding flexible particles to well cements. Reddy does not teach a trimodal particle packing. However, it is known, common, and conventional to use this packing arrangement to obtain improved cement properties (see claims).

Birchall et al. '748 teach a trimodal particle size distribution is advantageous for cement properties and further teach adding rubbery particles which are flexible (see col.4, line 65 and col.5, lines 35-68 and col.6).

For references above, even if not anticipated, overlapping ranges of amounts would have been prima facie obvious to one of ordinary skill in the art.

103:

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drochon et al. '991, Barlet Gouedard et al. '515 B1, Maroy (US '996 or EP 062147-Y reference on Int'l Srch Rprt), Le-Roy Delage et al. (US '592 B1 or Y reference WO 00/37387 A from Int'l Srch Rprt), Dargaud et al. '288 B1 or '001 B2, GB 2385325 (Simon James-on PTO-1449), Brannon et al. '305 B1, Chatterji '492 B2, or Reddy '206 A1 in view of Volpert '091 B2, Villar et al. '562, or Birchall '748.

The primary references were discussed above. However, not all teach trimodal particle packing. The secondary references teach that trimodal or multimodal particle packing is an advantageous and obvious design choice for one of ordinary skill in the art and would improve well cements including applications such as wells/subterranean formations.

35 USC 112 Second Paragraph:

Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

Independent claims 1 is indefinite because applicants do not define the fine, medium, and coarse particle sizes of their trimodal particle packing scheme. Inclusion of claim 2 into claim 1 (and thus canceling claim 2) would resolve this issue.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Paul Marcantoni/
Primary Examiner, Art Unit 1793